

**IN THE ABSTRACT:**

Please add the following Abstract:

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The invention relates to a catalytic method for the production of aliphatic and aromatic carbonyl compounds with at least one aldehyde or ketone function, whereby said compounds can also comprise at least one aldehyde and ketone function. A starting material comprising at least one aliphatic- and/or aromatic-bonded functional group of formula (I), where  $R^1 = H$ , alkyl or aryl,  $X = H$ , or a group which may be substituted by the sulphinyl group of a sulfoxide during the catalytic reaction,  $n =$  a whole number from 1 to 8, is oxidised in the presence of a sulfoxide and/or a sulphide and the presence of iron salts or redox pairs of iron/copper or silver/copper salts, by means of an oxidising agent with a redox potential of  $E_o > + 2$  V vs. NHE, whereby the sulfoxide or sulphide has a catalytic function. The method permits the production of carbonyl compounds, in particular, (poly)aldehydes and (poly)ketones with high selectivity, whereby the formation of alcohols and carboxylic acids, dimerisation products and other by-products is reduced to a minimum or essentially prevented. The final products obtained find application as important intermediates and final products.